

**NOT AVAILABLE COPY**WALSDORFF et al.  
S.N. 10/501,878  
OA December 13, 2005**AMENDMENTS TO THE CLAIMS:**

1. (currently amended) A process for preparing alkenylaromatic compounds ~~by comprising~~ the step of reacting alkylaromatic compounds in the presence of steam and natural gas or methane over a suitable catalyst at a temperature of from 400 to 800°C and a pressure of from 0.01 to 10 bar, wherein the molar ratio of steam to alkylaromatic compound is from ~~6.9:1 to 1:1~~ 5.95:1 to 1:1, the molar ratio of methane to alkylaromatic compound is from 0.1:1 to 8:1, and the methane is admixed before contact with the catalyst.
2. (original) A process for preparing alkenylaromatic compounds as claimed in claim 1, wherein the molar ratio of steam to alkylaromatic compound is from 5.95:1 to 2.5:1.
3. (previously presented) A process for preparing alkenylaromatic compounds as claimed in claim 1, wherein the molar ratio of steam to alkylaromatic compound is from 0.2:1 to 6:1.
4. (currently amended) A process for preparing alkenylaromatic as claimed in claim 1, wherein the reaction is carried out in ~~from two to six steps~~ a battery of a plurality of tube bundle reactors, tray reactors, shaft reactors, annular gap reactors or in fluidized bed reactors attached in series.
5. (previously presented) A process for preparing alkenylaromatic compounds as claimed in claim 1, wherein the alkylaromatic compound used is isopropylbenzene, ethylbenzene, 1,2-diphenylethane or an alkylpyridine compound.
6. (previously presented) A process for preparing alkenylaromatic compounds as claimed in claim 1, wherein the hydrocarbon compound used is ethylbenzene.
7. (previously presented) A process for preparing alkenylaromatic compounds as claimed in claim 1, wherein the natural gas comprises at least 90 vol% of methane.
8. (previously presented) A process for preparing alkenylaromatic compounds as claimed in

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claim 1, wherein the reaction is carried out in radial flow reactors